

Complete Listing of the Claims

1. (Currently Amended) A method for identifying a test compound that has the property of suppressing chemically-induced carcinogenesis in mammalian cells, the method comprising:

a) providing RWPE-1 and RWPE-2 cells,

b) measuring expression of a set of genes in the RWPE-1 and the RWPE-2 cells wherein the set of genes comprises at least: ADAM9, BUB1B, CD46, GJA1, HIF1A, ITGB1, LAMB1, MAD2L1, the gene encoding FLJ20372, Formin binding protein 3, PSMC6, RANBP2, CSPG6, SP3, THBS1, TTK, PRKAR1A, TOB1, and Acidic leucine-rich nuclear phosphoprotein 32 family, member E,

c) exposing RWPE-1 and RWPE-2 cells to the test compound,

d) re-measuring the expression of the named genes by the cells after exposure,

e) comparing the expression of the named genes in RWPE-1 with the expression of the named genes in RWPE-2

f) wherein a coordinated increase in expression of at least two-fold of all of the above genes in RWPE-1 but not in RWPE-2, indicates that the test compound has the property of suppressing chemically-induced foci formation in mammalian cells
~~screening a test compound for anti-neoplastic activity, the method comprising: providing a cell, measuring expression by the cell of a plurality of genes selected from Table 1, exposing the cell to the test compound, and re-measuring the expression by the cell of the plurality of genes, wherein the degree of increase in expression of the plurality of genes corresponds to the degree of anti-neoplastic activity of the test compound, wherein the plurality of genes comprises at least 20 genes selected from Table 1.~~

2. (Original) The method of claim 1 wherein the degree of increase of expression of the plurality of genes is measured using a weighted average.

3. (Currently amended) The method of claim 1 further comprising measuring the suppression of chemical carcinogen-induced foci formation in C3H 10T1/2 mouse

embryo fibroblast cells ~~wherein the degree of increase in expression of the plurality of genes is at least two-fold.~~

4-6 (Cancelled).

7. (Withdrawn) The method of claim 1 wherein the plurality of genes comprises PKA, TOB1, ERBIN, NIP3, TSP1, BUB1B, TTK, PSMC6, and USP1.

8. (Original) The method of claim 1 wherein the plurality of genes comprises genes selected from the group consisting of: genes that regulate apoptosis, genes involved in suppression of cell proliferation, mitotic check point genes, genes involved in protein degradation, and genes that up-regulate the gap junction proteins.

9. (Original) The method of claim 1 wherein gene expression is measured using an array comprising a substrate and a plurality of polynucleotide probes affixed to the substrate.

10. (Original) The method of claim 9 wherein the array comprises a plurality of polynucleotide probes that are specifically complementary to a plurality of genes named in Claim 1 as shown in Table 1.

11-12. (Cancelled).

13. (Withdrawn) A method for monitoring the efficacy of a prophylactic treatment of a subject, the subject having at least one risk factor for a neoplastic disease, the method comprising administering to the subject a therapeutic compound, and measuring the change in expression of a plurality of genes selected from Table 1.

14. (Withdrawn) The method of claim 13 wherein the therapeutic compound is lunasin or a compound related to or derived from lunasin.

15-18 (Cancelled).

19. (Withdrawn) The method of claim 13 wherein the plurality of genes comprises PKA, TOB1, ERBIN, NIP3, TSP1, BUB1B, TTK, PSMC6, and USP1.

20. (Withdrawn) The method of claim 13 wherein the plurality of genes comprises genes selected from the group consisting of: genes that regulate apoptosis, genes involved in suppression of cell proliferation, mitotic check point genes, genes involved in protein degradation, and genes that up-regulate the gap junction proteins.

21. (Withdrawn) A method for monitoring the efficacy of a treatment of a subject, the subject having a neoplastic disease, the method comprising administering to the subject a therapeutic compound, and measuring the change in expression of a plurality of genes selected from Table 1.

22. (Withdrawn) The method of claim 21 wherein the therapeutic compound is lunasin or a compound related to or derived from lunasin.

23-26 (Cancelled).

27. (Withdrawn) An array comprising a substrate to which is bound a plurality of polynucleotide probes that are specifically complementary to one or more genes as shown in Table 1.

28-34 (Cancelled).